Petroleum Economist

INDEX

Volume XLVI

1979

Offices: 5 Pemberton Row, Fleet Street, London EC4A 3DP

List of Articles by Title

ON GENERAL SUBJECTS

Aftermath of a revolution 138
Capital needs in the 1980s 276
Classification of proved reserves 502
Coming rise in gas prices 46
Competition cuts 1978 OPEC oil production 5
Conflicting influences in tanker market 403
Control of crude oil supplies 350
Dynamics of the Rotterdam oil market 49
End of the buyer's market for bunker oil 521
Energy and the LDCs in the 1970s 424
Fair prospects for coal liquids 67
Future for electric vehicles 59
Future for LNG market clouded by uncertainty 515
Gloom in Western Europe for chemicals sector 233
Gloomy view of oil supplies 446
Growing pressures on world natural gas supply 313
Incurable ills? 328
Is stockpiling of oil the answer 222
Long-term world energy outlook hopeful 91
Looking ahead with caution 459
New assessment of world oil and gas reserves 501
Oil companies: highlights of 1978 204
Oil markets: paradox and platitude 141
Potential of biomass 417
Price the market will bear 182
Rapid growth for oil company earnings 505
Realities of the oil business 310
Scope for higher efficiency in fuel use 289
Shifting patterns of world oil production 365
Slow progress to equilbrium for tanker market 155
Strong rise in first-half profits 379
Ten-point programme for the West 398
Time to get oil dialogue started 88
Uncertain future for world oil consumption 271
Viewpoint: World Petroleum Congress 400
Why flags-of-convenience? 386
Wilder shores of the oil trade 101
Year of contrasted difficulties for refiners 353

COMPANIES IN THE NEWS

Ashland Oil 4
Earnings boost for US groups 121
Operating review of 1978 236
Standard Oil (Indiana) 300
Weeks Petroleum 327

ON COUNTRIES AND AREAS

ARGENTINA — Private capital aids oil drive 409
AUSTRALIA — Exmouth plateau leads wildcat race 115
BOLIVIA — Deterioration of oil balance 22
CHINA — Moves towards economic growth 13
DENMARK — Decision soon on North Sea gas use 28
EGYPT — Nearing production target 524
EUROPE (WEST) — EEC moves to organise trading 292
— Gloom for chemicals sector 233
— Prospects for increased oil output in EEC 319
FRANCE — Emphasis on exploration 477
— Variations on a theme 161
GERMANY (WEST) — Brave efforts-grave problems 195
GREECE — Oil and energy in the 1980s 157
INDONESIA — Growing problems downstream 461
IRAN — Oil cutoff hits world supplies 54
JAPAN — Long-term oil strategy succeeding 369
ISRAEL — Long-term energy hopes 201
ITALY — Looming supply crisis 245
KUWAIT — New oil strategy pays off 95
KOREA (SOUTH) — Rising imports, mounting insecurity 448
MEXICO — New force in world oil 105
MIDDLE EAST — Western defence strategy 324
NEW ZEALAND — Little demand for Maui gas 198
NIGERIA — Nationalisation for political ends 377
NORTH SEA — BNOC's three years of progress 19
— Revenue options 266
— UK close to self-sufficiency 146
NORWAY — Production set to rise 189
OMAN — Turning-point for oil 420
OPEC — Competition cuts 1978 production 5
— Current thinking 498
— Price rise by instalments 2
— Revenues to show big rise in 1979 224
— Widening price differentials 65
PAKISTAN — Ambitious energy plans in doubt 273
PHILIPPINES — Setbacks to production hopes 26
PERU — Latin America's new oil exporter 283
ROMANIA — Oil at the crossroads 360
SAUDI ARABIA — Maintaining the balance 465
SPAIN — No brake on energy use 472
SWITZERLAND — Oil's dominance in energy balance 330
TAIWAN — Reality intrudes into oil plans 185
UK — BNOC's three years of progress 19
— Close to self-sufficiency 146
— Effects of oil revenues 288
— North Sea revenue options 266
USA — Concern over LPG markets 16
— Confusion in refining policy 510
— Crude costs leap 514
— Crude costs soar 376
— Energy problems intensify 225
— Energy strategy 326
Expansion after go-slow years for refiners 469
— Rise in crude oil imports confirmed 90
USSR — Rising output of natural gas 163
VIETNAM — Problems loom for renewed search 62

Pagination of this year's issue was as follows: January 1-44; *February* 45-84; *March* 87-13(*April* 137-180; *May* 181-220; *June* 221-264; *July* 265-308; *August* 309-348; *September* 349-396; *October* 397-444; *November* 445-496; *December* 497-540.

General Index

N.B. — Major treatment of a subject is indicated by page number in bold type

AIR POLLUTION

Germany (West) 36

ATOMIC ENERGY

Czechoslovakia 254
Germany (East) 254
Hungary 254
OECD 447
Poland 255
Romania 255, 362
Soviet bloc **254**
Spain 123, 378
Sweden **210**
Turkey 437
USA 326
USSR 254, 257, **298**, 340
World 92

Uranium 255

BUNKER OIL
End of the buyer's market 521

World **521**

Prices **522**
Shipping **521**

CHEMICALS
Gloom in Western Europe 233

Albania 532
Algeria 126
Asia 37
Bahrain 489
China 302, 337, 389
Egypt 127, 488
Europe (West) **233**
Greece 158
Iran 258, 301 437, 489, 533
Iraq 489
Kuwait 96, 437, 533
New Zealand 434, 490
Nigeria 488
Philippines 80
Qatar 258, 295
Saudi Arabia 77, 127, 388, 437, **466**, 533
Singapore 80
Tunisia 301
Turkey 258
UK 532
USSR 299

Companies **234**

COAL
Alternative energy — Fair prospects for coal liquids 67

Australia 69
China 13, 337
Germany (West) 36, 68, 301
Israel 201
Japan 69
OECD 447
Romania 362
South Africa 67, 74, 301
UK 68
USA **68**, 214, 303, 326, 390, 490
USSR 257, **298**, 532
World **67**, 91, **117**

COMPANIES *(Selective coverage only. See also Concessions and contracts; Company/government relations; State operations; Index of Company Information; "Oil Share Markets" monthly)*
Ashland Oil 4
Earnings boost for US oil groups 121
Operating review of 1978 236
Standard Oil (Indiana) 300
Weeks Petroleum 327
US oil companies — strong rise in first-half profits 379
Rapid growth in earnings 505

Argentina 410
Australia 115
Bolivia 342
Bulgaria 532
Canada 381
Columbia 438
France **72**, 477
Germany (West) **169**, **196**
Guatemala 390
Iran **350**
Israel 173
Japan 371, 437
Latin America 39
Libya 213
Nigeria 253, **377**
Norway 387
Philippines 389
South Africa 488
Spain 473
Sweden 340
UK 29, 36, 206, 213
USA 29, 38, **121**, 153, **204**, **231**, **238**, **312**, 340, **359**, **379**, **505**

Chemicals **234**
Finance and investment **119**, 121

COMPANY/GOVERNMENT RELATIONS *(See also OPEC; Legislation; Participation; Prices)*
France — variations on a theme 161
Control of crude oil supplies 350

Belgium 528
France **161**
Iran 56, 301, 489
Libya 76, **481**
Malaysia 125
OPEC **499**
Saudi Arabia 173
USA **184**
Venezuela 303
World **350**

CONCESSIONS AND CONTRACTS *(Including exploration permits; See also Legislation; Participation)*

Abu Dhabi 257
Ajman 37
Angola 213, 257, 297, **433**, 532
Argentina **209**, 259, **410**, 491
Australia 115, 489
Belize 39
Bolivia 23
Brazil 39, 175, **251**, **383**, 438, 491
Chile 78
Columbia 39
EEC 321
Egypt 77, 257, 301, 341, 488, **525**
Guatemala 39
Indonesia 389, 489, 534
Japan 450
Korea (South) 174, 450
Libya 173
Niger 37
Nigeria 123, **253**, 301, **480**
Norway 75, 150, 190, **208**, 299, 387
Pakistan 490
Papua-New Guinea 302
Portugal 172
Ras al-Khaimah 341
Sharjah 37
South Yemen 341, 437
Spain 473, 487
Sri Lanka 485
Syria 214, 489
Taiwan 185, 389
Tunisia 436, 532
UK 126, **170**, 482
USA **166**, 333
Venezuala 215
Vietnam 62

CONFERENCES AND EXHIBITIONS

103, 203, 290, 316, 337, 362, 406, 481

CONSUMPTION *(Main areas only. See also consumption subheads under countries in Countries and Areas Index)*
World oil Consumption — Uncertain future 271
Third World — Energy and LDCs in the 1970s 424

Africa 271
Australasia 271
Canada 70, 184, 271
EEC 210, 322
Europe (West) 65, 271
Far East 271
IEA **239**
Japan 174, 255, 271
Latin America 271
Middle East 271
OPEC **334**, 446
USA **70**, 153, 207, 225, 271, 470
World **271**, 398, **424**

Bunkers 271

CRUDE OIL *(See Participation; Prices; Production; and other relevant subjects. Imports and exports appear only as subheads under countries)*

DIAGRAMS

Bolivia 22
Crude oil price differentials 1975-1979 65
Rotterdam: Landed cost of Arab light crude vs. gross product worth 101
Single-voyage tanker freights 169
The oil - gold linkage 453
UK North Sea: Production profile 146

DRILLING *(See also Exploration; Offshore)*

Australia 78, **115**
Baltic 301
Bangladesh 437
Bolivia 129, 390
Brazil 78, 215
Canada 70, 77, 128, 302
Chile 342
Columbia 175
Denmark 190
Ecuador 491
EEC 321
Egypt 213
Greece 256
India 389
Israel 258
Japan 375
Korea (North) **385**
Malaysia 214
Mexico **106**
North Sea 189
Norway 36, 189, 208
Peru 78, 286
Philippines 27, 124, 490
Sweden 75
Taiwan 185
UK 36, 147, 387
USA 333, 342, 534
USSR 173, 213, 488
Venezuela 78, 130

ELECTRICITY *(See also Atomic Energy)*
Road Transport — The future for electric vehicles 59

China 337
Greece 159
Peru 286
Romania 362
USA 38
USSR 436

Motor vehicles **59**

ENERGY
Alternative energy — Fair prospects for coal liquids 67
World Energy — Long term outlook hopeful 91
Greece — Oil and energy in the 1980s 157
Israel — Long term energy hopes 201
United States — Energy problems intensify 225
Pakistan — Ambitious energy plans in doubt 273
Energy conservation — Scope for higher efficiency 289
Third World — Incurable ills? 328
Switzerland — Oil's dominance in energy balance 330
Alternative energy — The potential of biomass 417
Third World — Energy and LDCs in the 1970s 424
Spain — No brake on energy use 472

Algeria 427
Angola 427
Argentina 409, 426
Austria 527
Bangladesh 426
Belgium 339, 527
Bolivia 427, 438
Brazil 328, 418, 426
Brunei 427
Burma 426
Canada 438, 527
Chile 130
China 422, 437, 533
Colombia 426
Comecon 172
Communist bloc 92
Czechoslovakia 434
Denmark 527
EEC 183, 488
Egypt 427
Ethopia 426
Europe (West) **72**
Finland 212, 328
France 36, 161, 253, 299
Germany (East) 340
Germany (West) 126, 195, 387, 527, 532
Greece 75, **157**, 335, 527
Guatemala 426
Hungary 301
IEA **527**
India 328, 426
Indonesia 427
Iran 427
Iraq 427
Irish Republic 527
Israel **201**
Italy 245, 527
Japan 79, 341, 527
Kenya 328, 426
Korea (South) 426
Kuwait 427
Libya 427
Luxembourg 527
Madagascar 328
Mexico 427
Morocco 426
Mozambique 426
Nepal 328, 426
Netherlands 212, 527
New Zealand 342, 527
Nigeria 427
Norway 427
OECD 92, **447**
Oman 427
Opec 334
Pakistan **273**, 426
Peru 343, 426
Philippines 124, 426
Rhodesia 328
Romania 172, 340, **361**
Saudi Arabia 258, 427
Soviet Bloc **339**
Spain 123, 172, **378**, **472**, 527
Sri Lanka 328, 426
Sudan 426
Sweden 210, 328, 527
Switzerland **330**, 527
Syria 427
Taiwan 186, 426
Tanzania 328, 426
Thailand 426
Tobago 427
Trinadad 427
Turkey 426, 527
Uganda 328
UK 36, 267, 328, 435, 527
USA 11, **48**, **140**, **153**, 174, 183, **225**, 231, 302, 312, **326**, 328, **332**, 342, **352**, 389, 418, **500**, 509, 510, 527
USSR **34**, 36, 301, 324, 328, 488
Venezuala 427
World **67**, **91**, 399, **424**, 459
Yugoslavia 249

Alternative sources 328
Biomass **417**
Conservation **289**
Firewood 328
Forecast **91**
Solar **74**, 326
Third World 328
Waste conversion 27

EQUIPMENT

China 79, 128
Mexico 304
USSR 36, **298**

EXPLORATION *(See also Concessions and contracts; Drilling; Offshore)*
European Community — Prospects for increased oil output 319
France — Emphasis on exploration 477

Africa
Algeria 301, 488
Angola 340
Kenya 532
Libya 481
Morocco 388
Niger 37
Nigeria 340, 378
Sudan 340, 532
Tunisia 301, 488

Europe
Brazil 383
EEC **319**
France 75, 336, 339, **477**, 531
Greece 158, 435
Greenland 387
Hungary 76
Italy 249
Romania 361
Switzerland 332
UK 340, 387

Far East
Afghanistan 272
Australia 78, **117**, 489
China **485**
India 341
Indonesia 38, 258, 389
Japan **371**
Korea (North) 302
Korea (South) **449**
Pakistan 128, 214, **274**
Philippines 174
South Pacific **52**
Sri Lanka **485**
Thailand 174
Vietnam 38

Latin America
Argentina 209
Belize 39
Bolivia 342, 535
Brazil 39, 251, 438
Colombia 175, 439
Ecuador 439
Guatemala 39
Guyana 491
Mexico **106**, 175, 343
Peru **285**
Uruguay 130
Venezuela 343

Middle East
Egypt **524**
Israel 77, 173, 202, 258, 301
Jordan 77
Oman 127, 173, 422
Saudi Arabia 341
Sharjah 37
Syria 302
Turkey 258, 437, 489

North America
Canada 77, 214, 490

World 399, **486**

FINANCE AND INVESTMENT *(See also Foreign Aid; Royalties and revenues)*
Capital needs in the 1980s 276

Africa 336
Algeria 36, 301, 532
Australia 116
Canada 336
China 211
Denmark 28, 387
EEC 321
Egypt 126, 213, 525
Europe (West) 336
Far East 336
France 477
Indonesia 302, 462
Iran **55**
Iraq 77
Italy 168
Japan 128
Kuwait 9
Middle East 336
Mexico 105, 343, 390
North Sea **197**
Norway 487
OPEC 39, **296**, 398, 425, 453
Pakistan 38
Peru 343
Qatar 77
Saudi Arabia 466
Tunisia 301
Turkey 37
UK 267, 435
USA **11**, **99**, 121, **153**, **231**, **279**, 336, **359**, **415**, **453**, **509**
USSR 126
Venezuela 336, 343
Western Hemisphere 336
World **276**, 336, 401, 425

Companies **119**, 121

FOREIGN AID

Afghanistan 275
OECD 428
OPEC 428
Pakistan 275, 490

Less developed countries 428

GASOLINE

Brazil 383
Greece 256
Saudi Arabia 341
Switzerland 331
UK 75
USA **30**, 153, 174, 333, 355, **470**, 534
Venezuela 343

LEGISLATION *(See also Concessions and contacts; Company/government relations)*

Argentina 410
Bolivia 174
France 162
Norway 299
Ras al-Khaimah 37
Thailand 80
USA 352, **500**, 534

LIQUEFIED METHANE *(See Natural Gas Liquefied)*

LIQUEFIED PETROLEUM GAS
United States — Concern over LPG markets 16

Abu Dhabi 533
Algeria 126
Australia 341
Dubai 340
Iraq 489
Kuwait 302
New Zealand **198**
Saudi Arabia 258
USA **16**

LUBRICATING OIL

Canada 38

MAPS

Argentina — Southern offshore areas 411
Australia — Exmouth Plateau 116
Denmark — Proposed gas pipeline system 29
Greece 157
Israel 203
Oman 420
Peru — Main oilfields 285
Pakistan and Afghanistan — Oil and gas fields 273
Spain — Campsa's gas finds 35
Spain — Offshore oilfields 472
Taiwan — Concessions 185
Vietnam — Exploration areas 63
Western Europe: Sedimentary basins and hydrocarbon finds 320

MARKETING *(See also "Market Trends" monthly)*
United States — Concern over LPG markets 16
Oil Markets — Dynamics of the Rotterdam market 49
Oil Markets — The wilder shores of the oil trade 101
Oil Markets — Paradox and platitude 141
The price the market will bear 182
World oil markets — EEC moves to organise trading 292

EEC 256, **292**
Europe (West) **49**, **101**, **141**
France **161**
Germany (West) 51
Italy 246
Netherlands **49**, **101**, **141**
Portugal 435
USA **16**, 534

Spot markets **49**, **101**, 138, **141**

MOTOR VEHICLES
Road Transport — The future for electric vehicles 59

UK **60**
USA 59

Electricity **59**

NATIONALISATION
Nigeria — Nationalisation for political ends 377

Iran 388
Iraq 173, 350
Kuwait 350
Nigeria **377**
Qatar 350

NATURAL GAS
Denmark — Decision soon on North Sea gas use 28
The coming rise in gas prices 46
USSR — Rising output of natural gas 163
New Zealand — Little demand for Maui gas 198
Growing pressures on supply 313

Africa 314, 502
Algeria 37, 76, 314, 340
Angola 314
Congo 314
Egypt 314
Gabon 314
Libya 213, 314
Morocco 314
Nigeria 314
Rwanda 314
South Africa 301, 436
Sudan 314
Tanzania 314
Tunisia 314, 432
Zaire 314

Europe 46
Albania 314
Austria 314
Belgium 172, 314, **528**
Bulgaria 314
Czechoslovakia 314
Denmark **28**, **123**, 172, 299, 314, 435
EEC 120
Europe (East) 314
Europe (West) 314, 502
Finland 125, 315, 531
France 75, 172, 212, 314, 435
Germany (East) 314
Germany (West) 36, 76, 126, 170, 172, 314, 340
Greece 125, 314
Hungary 314
Ireland 314
Italy 212, 249, 314, 435
Luxembourg 315
Netherlands 64, 75, 256, 299, 314, 339, 387, 487
North Sea **21**, 147, 531
Norway 125, 256, 314, 435, 531
Poland 314
Romania 314, 360
Spain **35**, 212, 314, 340, 378, 387, 435, **474**
Switzerland 315, 331
UK **21**, 126, 147, 301, 314, 340, 387, 532
USSR 76, **163**, 213, 257, 314, 502, 532
Yugoslavia 126, 314, 387

Far East 314, 502
Afghanistan **272**, 314, 341, **412**
Australia 214, 302, 314, 489
Bangladesh **297**, 314, 437
Brunei 314
Burma 314
China 314, 389, 502
India 38, 258, 314
Indonesia 314
Japan 314, 341, 375, 534
Malaysia 174, 314
New Zealand 174, **198**, 302, 314, **434**
Pakistan 128, **274**, 314
Taiwan 128, 186, 314
Thailand 80, 314, 342, 389, 438, 534

Latin America 314
Argentina 39, **120**, 314, 491
Barbados 314
Bolivia **22**, 259, 314, 390, 535
Brazil 215, 314
Caribbean area 314
Chile 259, 314
Colombia 78, 215, 303, 314
Cuba 314
Ecuador 314
Mexico **113**, **166**, 304, 314, **381**, 438, **479**
Peru 130, 314
Trinidad 314
Venezuela 314

Middle East 314, 502
Abu Dhabi 77, 173, 314, 436
Bahrain 257, 314
Dubai 314
Egypt 127, 341
Iran 57, 301, 314, 388, 502
Iraq 314, 533
Israel 77, **201**, 314
Kuwait 96, 314
Oman 314, 422
Qatar 77, 214, 258, **295**, 314, 489
Saudi Arabia 314, 465
Sharjah 314
Syria 314, 533
Turkey 173, 314

North America 314, 381
Canada 70, **165**, 214, 258, 314, **333**, 342, 359, 382, 438, 490, 502, 514, **526**, 534
USA 38, **46**, **69**, 129, 140, 166, 226, **251**, 303, 314, 326, 342, **381**, 389, 431, 438, **479**, 502

World 46, 313, 314, 502
Eastern Hemisphere 314
OECD 447
Prices **46**, 315
Reserves 313
Western Hemisphere 314, 502

NATURAL GAS (LIQUEFIED)
Future clouded by uncertainty 515

Abu Dhabi 517
Algeria 76, 126, 173, 257, 517
Australia 341, 533
Belgium 339
Brunei 517
Canada **119**
Europe (West) 516
France 517
Indonesia 214, 341, 517
Italy 517
Japan 375, 516
Libya 517
Malaysia 490
Spain 474, 517
Trinidad 215
UK 517
USA 38, 69, 129, 174, 303, 389 490, **515**
World 46, 314, **515**

Forecast 515
Prices **516**
Tankers 156

OFFSHORE
Vietnam — Problems loom for renewed search 62
Australia — Exmouth Plateau leads wildcat race 115
UK North Sea — Close to self sufficiency 146
Taiwan — Reality intrudes into oil plans 185
North Sea — Norway's production set to rise 189

Africa
Angola 76, 297, 433, 532
Benin 257
Cameroun 213, 436, **481**
Congo 301, 488
Equatorial Guinea 532
Gabon 126, 388
Gambia 213
Ghana 37, 76, 173, 436
Libya 126, 257
Morocco 213, 488
Nigeria 253, 480
Seychelles 340
South Africa 74, 257, 436
Tunisia 37, 76, 126, 173, 295, **432**, 436, 532

Europe
Denmark 36, 123, **190**, 256, 387, 435, 531
EEC **319**
France 339
Germany (West) 191, 436
Greece 75, **157**, 531
Irish Republic 435
Italy 435
Netherlands 125, 190, 531
Norway 36, 75, 125, **150**, 172, **208**, 254, 256, **293**, 299, 387, 435, 487, 531
Portugal 212
Romania 532
Spain 35, 36, 172, 212, 256, 387, 435, **472**, 487
Sweden 75, 435
UK **7**, **19**, **21**, 36, 75, 125, **146**, **170**, 172, 197, 213, 254, 256, 266, **293**, 299, 340, 387, 412, 436, **482**, 487, 532

USSR 36, 301, 340, 488
Yugoslavia 387, 436

Far East
Australia 37, 78, **115**, 128, 174, 258, 302, 341, 388, 489
Burma 341
China **14**, 79, 128, 174, **211**, 214, 258, 302, 341, 389, 437, 486, 489
Fiji 302
India 38, 128, 302, 533
Indonesia 38, 79, 214, 302, 437, 489, 533
Japan 174, 214, 450
Korea (North) **385**
Korea (South) 80, 258, 437, **450**
Malaysia 79, **124**, 128, 342, 389, 437, 490
New Zealand 38, 79, **198**
Pakistan 38
Philippines **26**, **124**, 128, 389, 437, 490
South Pacific **52**
Sri Lanka 485
Taiwan 174, **185**, 389, 438, 534
Thailand 80, 389, 438
Vietnam 38, **62**, 128, 174, 214, 438, 534

Latin America
Argentina 209, 342, 410, 438
Brazil 39, 78, 130, 175, 303, 383, 390, 438, 491, 535
Chile 78, 259, 342, 535
Guyana 215
Mexico 39, **111**, 259, 304, **334**, 343, 390, 491, 535
Peru 130, 286
Trinidad 129
Venezuela 39, 78, 304, 438

Middle East
Abu Dhabi 76, 173, 257, 436, 488
Ajman 37
Dubai 257
Egypt **73**, 77, 301, 340, 388, 488, **524**
Israel 77, 127, 257, 302
Oman 127, 173, 489
Qatar 37, 258
Sharjah 37, 533

North America 480
Canada 38, **70**, 128, 174, 258, 302, **430**, 438, 480, 534
USA **30**, 77, 129, **166**, 214, **251**, 302, 303, **333**, 342, 389, 480, 490, 534

PARTICIPATION *(See also Concessions and contracts; State operations)*
Abu Dhabi 350
Angola 297, 433
Algeria 350
Chile 39
Libya 350
Nigeria 340, 350
OPEC **350**
Pakistan **274**
Peru 286
Saudi Arabia 350
UK **19**, 293

PIPELINES (GAS)
Algeria 257, 340, 388
Argentina 120, 390, 412
Bolivia 23, 175
Canada 33, **165**, **207**, **251**, 342, 526, 534
China 341
Denmark **29**
France 256
Indonesia 38
Iran 37, 533
Iraq 341
Italy 125, **168**
Mexico 78, 480
Netherlands 190
North America **33**, 165, **251**, **526**
Norway 299, 487
Oman 422, 489
Spain 299
Tunisia 37, 257
UK 36, 172, 340
USA 33, 214, **251**, 389, 490, 526
USSR 164, 488

PIPELINES (OIL)
Abu Dhabi 77, 533
Brazil 438
Burma 482
Canada 33, 389, 479, 490
China 15
Colombia 389, 520
Egypt 127
Greece 531
Iraq 37, 77
Israel 203
Mexico 215, 334
Middle East 156
Netherlands 190
Nigeria 340
North America **33**, **479**
Oman 258, 421
Peru 130, 215, 283
Saudi Arabia 77
Turkey 489
UK 75
USA 33, 78, **166**, 174, 259, 479
USSR 126

PRICES *(See also "Market Trends" monthly)*
OPEC price rise by instalments 2
The coming rise in gas prices 46
Oil Markets — Dynamics of the Rotterdam market 49
Widening OPEC differentials 65
Oil Markets — The wilder shores of the oil trade 101
Aftermath of a revolution 138
Oil Markets — Paradox and platitude 141
The price the market will bear 182
World oil markets — EEC moves to organise trading 292
Realities of the oil business 310
OPEC's current thinking 498

Abu Dhabi 138, 182, 310
Afghanistan 272
Algeria 138, 182, 310
Australia 78, 389
Belgium 387
Bolivia 24, 535
Brazil 383
Bulgaria 356
Canada 38, 77, 334, 389, 490, 534
China 389
Colombia 520
Comecon 301
Czechoslovakia 356
Denmark 28
Ecuador 175, 215, 439
EEC **292**
Europe (West) **49**, **101**, 141
Finland 531
France **161**
Gabon 301
Germany (East) 340, 356
Greece 335
Hungary 356
Indonesia 182, 310, 462
Iran 182, 310
Iraq 182, 310
Kuwait 138, 182, 310
Libya 138, 182, 310
Mexico 39, 343
Netherlands **49**, **101**, **141**, 216
Nigeria 182, 310, 378
OPEC **2**, **65**, 88, **139**, **182**, **268**, **297**, **310**, **415**, 460, **498**
Peru 283, 439
Poland 356
Qatar 138, 182, 310
Romania 356
Saudi Arabia 138, 182, 310
Spain 339, 532
Turkey 214
USA 11, **16**, **30**, 69, **207**, **227**, 279, **332**, **376**, 389, **430**, 438, 480, 514
Venezuela 182, 310, 439
World 15, **46**, **138**, **182**

Bunker oil **522**
Diagram 65, 101
Differentials **65**
Import costs **15**
Natural gas **46**, 315
Products **3**
Natural gas (Liquefied) **516**
Spot market 2, 138

PRODUCTION *(See also "World Oil Production" monthly)*
World — Competition cuts 1978 OPEC output 5 (correction 48)
Iran — Oil cutoff hits world supplies 54
Mexico — A new force in world oil 105
UK North Sea — Close to self-sufficiency 146
European community — prospects for increased oil output 319
World — shifting patterns of production 365
Argentina — Private capital aids oil drive 409
Oman — Turning point for oil 420
Egypt — Nearing production target 524

Africa 6, 365,
Algeria 6, 76, 366
Angola 6, 366
Cameroun 213, 366, 482
Congo 6, 366, 488
Gabon 6, 257, 366
Ghana 301, 366
Libya 6, 301, 366, 481
Nigeria 6, 37, 76, 213, 340, 366, 377, 436
Tunisia 6, **295**, **366**
Zaire 6, 366

Europe 6
Albania 6, 172, 366
Austria 6, 366
Belgium 322
Bulgaria 6, 366
Czechoslovakia 6, 366
Denmark 6, 322, 366
EEC 209, **319**
Europe (East) 366
Europe (West) 366
France 6, 212, 322, 366, 477
Germany (East) 6, 366
Germany (West) 6, 195, 256, 322, 340, 366
Hungary 6, 366
Italy 6, 212, 249, 322, 366
Netherlands 6, 322, 366
Norway 6, 366, 487
Poland 6, 366
Romania 6, 126, **360**, 366
Spain 6, 36, 172, 322, 366, 387, 435, 473
UK 6, 75, **146**, 266, 322, 340, 366, 435, 532
USSR 6, 76, 126, 366, 428, 532
Yugoslavia 6, 366

Far East 6, 366
Australia 6, 117, 366, 437
Brunei 6, 78, 214, 366
Burma 6, 214, 366, 389, 482
China 6, **14**, 79, **211**, 258, 302, **337**, 341, 366, 389, 485
India 6, 79, 128, 214, 302, 366, 489, 533
Indonesia 6, 79, 128, 174, 302, 341, 366
Japan 6, 255, 366, 375
Malaysia 6, 38, 366, 534
New Zealand 214, 366
Pakistan 6, 80, 273, 366
Philippines **26**, 38, 80, **124**, 214, 366
Taiwan 6, 186, 366

Latin America 6, 366
Argentina 6, 78, 174, 366, **409**
Barbados 366
Bolivia 6, **22**, 303, 342, 366
Brazil 6, 78, 129, 253, 366, 535
Caribbean area 6, 366
Chile 6, 78, 342, 366
Colombia 6, 366
Cuba 6, 366
Ecuador 6, 304, 366
Guatemala 304, 366
Mexico 6, **71**, **105**, 259, 366, 535
Peru 6, 130, 215, **283**, 366, 491
Trinidad 6, 215, 366
Venezuela 6, 78, 175, 366, 535

Middle East 6, 366
Abu Dhabi 6, 213, 366, 388, 488
Bahrain 6, 366
Dubai 6, 366
Egypt 6, 77, 127, 173, 340, 366, 436, **524**
Iran 6, 37, **54**, 127, 139, 213, 257, 341, 366, 436
Iraq 6, 301, 366, 489
Israel 77, 201, 301, 366, 388, 436
Kuwait 6, **95**, 341, 366, 388
Neutral zone 257
Oman 6, 366, 388, **422**
Qatar 6, 366
Saudi Arabia 6, 341, 366, 465
Sharjah 6, 366
Syria 6, 366
Turkey 6, 366

North America 6, 366
Canada 6, 366, 534
USA 6, 11, 207, 226, 259, 326, 366, 376, 469

World 5 (correction 48), 366, 400, 459, 501
Capacity 501
control cost 400
Eastern hemisphere 6
Forecast 401
OECD 446
OPEC 6, 88, 183, 268, 311, **365**, 446
Recovery methods **212**
Western hemisphere 6

REFINING
Year of contrasted difficulties 353
Indonesia — Growing problems downstream 461
US Refining — Expansion after go-slow years 469
US Refining — Confusion in refining policy 510

Africa 354
Algeria 354
Cameroun 354
Chad 76
Congo 354
Guinea 354
Ivory Coast 173
Libya 354, 532
Mauritania 354
Morocco 436
Mozambique 354
Nigeria 76, 354
Senegal 354
Somalia 212
Tunisia 340

Europe 49, 101, 141
Belgium 125, 387, 435
Czechoslovakia 436
Europe (west) **353**
Germany (West) 172, **196**, 340
Greece 36, **158**
Hungary 488
Italy **246**, 355
Netherlands 49, 101, 141
Portugal **72**, 299
Romania 36, 361, Spain **210**, 339, 355
Sweden 435
Switzerland 330
UK 75
USSR 76, 299
Yugoslavia 354, 504

Far East 354
Australia 302, 355, 437
Bangladesh 489
Burma 128, 341, 354, 485
China 14, 79, 128, 489, 533
French Polynesia 354
India 354, 533
Indonesia 354, 437, **461**
Japan 255, 354, 370
Korea (South) 128, 354, **449**
Malaysia 258
New Zealand 258, 355
Pakistan 275, 354, 490
Singapore 128, 342, 355
Taiwan 258, 355
Thailand 490
Vietnam 342

Latin America 99, 354
Argentina 409
Bolivia 355
Brazil 354
Caribbean area 354, 513
Colombia 355, 390
Ecuador 78, 535
Jamaica 354
Mexico 215, 355, 439
Nicaragua 355
Peru 39, 286, 343, 354
South America 354
Trinidad 78
Venezuela 355
Virgin Islands 354

Middle East 354
Abu Dhabi 257, 354
Egypt 355
Iran 56, 354, 437, 533
Iraq 37, 341, 354, 489, 533
Israel 355
Jordan 173, 355
Kuwait **95**
OAPEC 39
Oman 422, 489
Qatar 37, 354, 533
Saudi Arabia 37, 173, 341, 354, 388, 465
Syria 37, 388, 437
Turkey 128, 173, 354

North America 354
Canada 38, 70, 128, 354, 527, 534
USA 38, 66, 77, 129, 166, 302, 354, 389, 438, **469**, 490, **510**, 534

World 353
Conversion plants **530**
OPEC 89

RESEARCH AND DEVELOPMENT

Canada 128
USA 68

RESERVES
New assessment of resources 501
Classification of proved reserves 502

Afghanistan 272
Abu Dhabi 257
Argentina 78, 259, 410
Bolivia 342
Brazil 215, 438
Canada 302, 333
China 13, 214
Denmark 190, 321
Ecuador 439
EEC 321
Egypt 525
France 321
Germany (West) 196, 257, 321
India 214
Indonesia 38
Iran 57
Ireland 321
Italy 321
Japan 375 (correction 422)
Mexico 39, 71, **109**, 259, 439, 535
Middle East 501
Netherlands 321, 339
Norway 294, 387
Peru 491
Philippines 26, 214
Saudi Arabia 341, 465
Spain 340, 472
UK 36, 321, 487
USA 226, 259, **359**, 501, 502
USSR 504
World **400**, 460, **501**

Classification 502
Eastern Hemisphere 501
Natural gas 313
Western Hemisphere 501

ROYALTIES AND REVENUES
OPEC revenues to show big rise in 1979 224
North Sea revenue options 266
Effects of UK oil revenue 288

Algeria 224
Ecuador 224
Gabon 224
Germany (West) 387
Ghana 37
Indonesia 224
Iran 224
Iraq 224
Kuwait 224
Libya 224
Nigeria 213, 224, 378, 436
Norway 75, 487
Malaysia 342
OPEC **66**, **224**, 311
Qatar 224
Saudi Arabia 224
UAE 224
UK **266**, **288**, 387
Venezuela 224

SEA POLLUTION

IMCO convention 130
Mexico **334**

SHALE OIL

Brazil 303
China 79
Israel **171**, 203
Jordan 253
Morocco 37, 76, 126
USA 390, 490
USSR **529**

SHIPBUILDING AND SHIPPING *(see also Tankers)*
Bunker oil **521**

STATE OPERATIONS *(See also Participation)*
State oil companies — BNOC's three years of progress 19

Bahrain 533
Bangladesh 38
Bolivia **22**, 23
Brazil 130, 175, 259, 390
Canada 77, 128, 302, 389, 438, 490
Colombia 175, **520**
Ecuador 175
Gabon 532
India 79
Iran 257, 351, 489
Iraq 351
Italy 299
Japan 375
Korea (south) 38
Kuwait 489
Malaysia 79, **124**
Mexico 71, **105**
New Zealand 198, 490
Nigeria 123, 351, 436, 481, 488
Norway 212, **254**, 487, 532
OPEC **529**
Peru 283, 439, 491
Philippines 389
Portugal 256
South Africa 257
Spain 210, 473
Sweden 172, 532
Taiwan 186
UK **19**, **254**, 299, **384**, **412**, **482**, **529**
Uruguay 130
Venezuela 39, 343
Vietnam 63

STOCKS AND STORAGE
IS STOCKPILING OF OIL THE ANSWER? 222

Canada 128
France 223
Germany (West) 223

I.E.A. **222**
Italy 223
Japan 79, 128, 223, 369
Korea (South) 437, 449
Netherlands 223
Rhodesia 37
Saudi Arabia 437
USA 48, 214, 223
World 139

SYNTHETIC OIL *(see also Coal; Shale Oil; Tar Sands)*
Alternative energy — Fair prospects for coal liquids 67

Australia 69
Germany (West) 68
Japan 69
New Zealand 534
South Africa 67, 126, 173, 301
UK 68, 532
USA**68**, 490, **509**
World **67**

TANKER FREIGHTS

Mideast/Europe 80, 168
World 97, **403**, 523

AFRA 304
Diagram 169
Spot market **168**

TANKER TERMINALS

Abu Dhabi 37, 436
Cayman Islands 214
Europe (West) 406
Iraq 489
Middle East 406
Netherlands 531
Nigeria 173
Oman 341
Panama 215
Saudi Arabia 258
UK **7**, 75, 146, 156
USA 156, 406, 479
World **406**

TANKERS
Slow progress to equilibrium 155
Conflicting influences at work 403

Algeria 156
Argentina 156
Australia 37
Brazil 156, 404
China 156, 404
Denmark 156, 404
Finland 156, 404
France 156, 404
Germany (West) 156, 404
Greece 156, 404
India 156, 404
Iran 156, 404
Iraq 156, 404
Italy 156, 404
Japan 156, 404
Korea (South) 156, 404
Kuwait 97, 156, 341, 404
Liberia 156, 404
Libya 156, 404
Nigeria 301
Netherlands 156, 404
Netherlands Antilles 156, 404
Norway 156, 404
Panama 156, 404
Portugal 156, 404
Saudi Arabia 156, 404
Singapore 156, 404
Spain 156, 404
Sweden 156, 404
UK 156, 404
USA 156, 404
USSR 156, 404
World 35, 74, **97**, 130, **155**, **403**, **486**

Demand 74
Diesel 405
Forecast **74**
Flags of convenience **386**
Fuel costs 403
LNG carriers 156
LPG carriers 156
Orders 155
Sea pollution 404
Small carriers **35**
Supply 74
Surplus 155, 405, 486
VLCC

TAR SANDS

Canada **32**, 128, 174, 342, **381**, 438, **527**, 534
Venezuela 491

TAXATION

Australia 437
France 435
New Zealand 258
Nigeria 340
Norway 487
Switzerland 331
UK 172, 299
USA **228**

TRADE AGREEMENTS

China/Japan 15, 371
Finland/USSR 487
France/Mexico 39
Germany (East)/Germany (West) 436
Greece/Libya 488
Iraq/Irish Republic 487
Iraq/Italy 487

Countries and Areas Index

N.B. — Major treatment of a subject is indicated by page number in bold type

ABU DHABI

Concessions and contracts 257
Exports 388
Liquefied petroleum gas 533
Natural gas 77, 173, 314, 436
Natural gas (liquefied) 517
Offshore 76, 173, 257, 436, 489
Participation 350
Pipelines (oil) 77, 533
Prices 138, 182, 310
Production 6, 213, 366, 388, 489
Refining 257, 354
Reserves 257
Tanker terminals 37, 436

AFGHANISTAN

Exploration 272
Exports 341
Foreign aid 275
Map 273
Natural gas **272**, 314, 341
Prices 272
Reserves 272

Africa 354
Consumption 271
Finance and investment 336
Natural gas 314, 502
Production 6, 365
Uranium 255

AJMAN

Concessions and contracts 37
Offshore 37

ALBANIA

Chemicals 532
Natural gas 314
Production 6, 172, 366

ALGERIA

Chemicals 126
Consumption 335, 427
Energy 427
Exploration 301, 488
Exports 427, 488
Finance and investment 36, 301, 532
Liquefied petroleum gas 126
Natural gas 37, 76, 314, 341
Natural gas (liquefied) 76, 126, 173, 257, 517
Natural gas liquids 436
Participation 350
Pipelines (gas) 257, 341, 388
Pipelines (NGL) 76, 173
Prices 138, 182, 310
Production 6, 76, 366
Refining 354
Royalties and revenues 224
Tankers 156

ANGOLA
Concessions and contracts 213, 257, 297, **433**, 532
Consumption 427
Energy 427
Exploration 341
Exports 427
Natural gas 314
Offshore 75, 297, 433, 532
Participation 297, 433
Production 6, 366

ARCTIC *(See under Canada; Greenland; Norway and United States — Alaska)*

ARGENTINA
Private capital aids oil drive 409

Companies 410
Concessions and contracts **209**, 259, **410**, 491
Consumption 409, 426
Energy 409, 426
Exploration 209
Imports 39, 174, 426
Legislation 410
Map 411
Natural gas 39, **120**, 314, **412**, 491
Offshore 209, 342, **410**, 438
Pipelines (gas) 120, 390, 412
Production 6, 78, 174, 366, **409**
Refining 409
Reserves 78, 259, 410
Tankers 156

ASIA *(See also Far East; Middle East)*

Chemicals 37

AUSTRALASIA

Consumption 271
Uranium 255

AUSTRALIA
Exmouth Plateau leads wildcat race 115

Coal 69
Companies 115
Concessions and contracts 115, 489
Drilling 78, **115**
Exploration 78, **117**, 489
Finance and investment 116
Liquefied petroleum gas 341
Map 116
Natural gas 214, 302, 314, 489
Natural gas (liquefied) 341, 533
Offshore 37, 78, **115**, 128, 174, 258, 302, 341, 388, 489
Prices 78, 389
Production 6, 117, 366, 437
Refining 302, 355, 437
Synthetic oil 69
Tankers 37
Taxation 437

AUSTRIA

Consumption 299, 435
Energy 527
Natural gas 314
Production 6, 366

BAHRAIN

Chemicals 489
Natural gas 257, 314
Natural gas liquids 533
Production 6, 366
State operations 533

BALTIC SEA

Drilling 301

BANGLADESH

Consumption 426
Drilling 437
Energy 426
Imports 426, 489
Natural gas **297**, 314, 437
Refining 489
State operations 38

BARBADOS

Natural gas 314

BELGIUM

Company/government relations 528
Consumption 256
Energy 339, 527
Natural gas 172, 314, **528**
Prices 387
Production 322, 366
Refining 125, 387, 435

BELIZE

Concessions and contracts 39
Exploration 39

BENIN

Offshore 257

BOLIVIA
Deterioration of the oil balance 22

Companies 342
Concessions and contracts 23
Consumption 427
Diagram 22
Drilling 129, 390
Energy 427, 438
Exploration 342, 535
Exports 22, 427
Legislation 174
Natural gas **22**, 259, 314, 390, 535
Pipelines (gas) 23, 175
Prices 24, 535
Production 6, **22**, 303, 342, 366
Refining 355
Reserves 342
State operations **22**, 23

BRAZIL

Concessions and contracts 39, 175, **251**, **383**, 438, 491
Consumption 129, 303, 426
Drilling 78, 215
Energy 328, 418, 426
Exploration 39, 251, 383, 438
Forecast 535
Gasoline 383
Imports 39, **167**, 342, **383**, 426
Motor fuel 303
Natural gas 215, 314
Offshore 39, 78, 130, 175, 303, 383, 390, 438, 491, 535
Pipelines (oil) 438
Prices 383
Production 6, 78, 129, 253, 366, 535
Refining 354
Reserves 215, 438
Shale Oil 303
State operations 130, 175, 259, 390
Tankers 156, 404

BRUNEI

Consumption 427
Energy 427
Exports 427
Natural gas 314
Natural gas (liquefied) 517
Production 6, 78, 214, 366

BULGARIA

Companies 532
Natural gas 314
Prices 356
Production 6, 366

BURMA

Consumption 426
Energy 426
Exports 389, **482**
Imports 426
Natural gas 314
Offshore 341
Pipelines (oil) 482
Production 6, 214, 366, 389, 482
Refining 128, 341, 354, 485

CAMEROUN

Offshore 213, 436, **481**
Production 213, 366, 482
Refining 354

CANADA

Alberta 381
Arctic 33, 38, 77, **119**, 174, 258, 302, 389, **430**, 534
Companies 381
Consumption 70, 184, 271
Drilling 70, 77, 128, 302
Energy 438, 527
Exploration 77, 214, 490
Exports 38
Finance and investment 336
Forecast **165**
Heavy oil 77
Imports 174, 258, 389
Lubricating oil 38
Natural gas 70, **165**, 214, 258, 314, **333**, 342, 359, 382, 438, 490, 502, 514, **526**, 534
Natural gas (liquefied) **119**
Offshore 38, **70**, 128, 174, 258, 302, **430**, 438, 480, 534
Pipelines (gas) 33, 165, **207**, **251**, 342, 526, 534
Pipelines (oil) 33, 389, 479, 490
Prices 38, 77, 334, 389, 490, 534
Production 6, 366, 534
Refining 38, 70, 128, 354, 527, 534
Research 128
Reserves 302, 333
State operations 77, 128, 302, 389, 438, 490
Stocks and storage 128
Tar Sands **32**, 128, 174, 342, **381**, 438, **527**, 534

CARIBBEAN AREA, 366
Natural gas 314
Production 6
Refining 354, 513

CAYMAN ISLANDS

Tanker terminals 214

CHAD

Refining 76

CHILE

Concessions and contracts 78
Drilling 342
Energy 130
Forecast 130
Natural gas 259, 314
Offshore 78, 259, 342, 535
Participation 39
Production 6, 78, 342, 366

CHINA
Moves towards economic growth 13

Chemicals 302, 337, 389
Coal 13, 337
Economic growth **13**
Electricity 337
Energy 418, 437, 533
Equipment 79, 128
Exploration **485**
Exports **15**, 533
Finance and investment 211
Natural gas 314, 389, 502
Offshore **14**, 79, 128, 174, **210**, 214, 258, 302, 341, 389, 437, 486, 489
Pipelines (gas) 341
Pipelines (oil) 15
Prices 389
Production 6, **14**, 79, **211**, 258, 302, **337**, 341, 366, 389, 485
Refining 14, 79, 128, 489, 533
Reserves 13, 214
Shale oil 79
Tankers 156, 404
Trade agreement—Japan 15, 371

COLOMBIA

Border dispute 303
Companies 438
Concessions and contracts 39
Consumption 11, 426
Energy 426
Drilling 175
Exploration 175
Finance and investment 39
Imports 426
Natural gas 78, 215, 314
Pipelines (oil) 390, 520
Prices 520
Production 6, 366
Refining 355, 390
State operations 175, **520**

CONGO

Natural gas 314
Offshore 301, 488
Production 6, 366, 488
Refining 354

CUBA

Natural gas 314
Production 6, 366

CZECHOSLOVAKIA

Atomic energy 254
Energy 434
Imports 213, 434
Natural gas 314
Prices 356
Production 6, 366
Refining 436

DENMARK
Decision soon on North Sea gas use 28

Concessions and contracts 77
Drilling 190
Energy 527
Finance and investment 28, 387
Forecast 36, 190
Map 29
Natural gas **28**, **123**, 172, 299, 314, 435
Offshore 36, 77, 123, **190**, 256, 387, 435, 531
Pipelines (gas) **29**
Prices 28
Production 6, 77, 322, 366
Reserves 190, 321
Tankers 156, 404

DUBAI

Liquefied petroleum gas 340
Natural gas 314
Offshore 257
Production 6, 366

EASTERN HEMISPHERE

Natural gas 314
Production 6
Reserves 501

ECUADOR

Consumption 335
Drilling 91
Exports 439
Exploration 439
Natural gas 314
Oil policy 304
Prices 175, 215, 439
Production 6, 304, 366
Refining 78, 535
Reserves 439
Royalties and revenues 224
State operations 175

EEC
World oil markets — EEC moves to organise trading 292
Prospects for increased oil output 319

Concessions and contracts 321
Consumption 172, 210, 322
Drilling 321
Energy 183, 488
Exploration **319**
Finance and investment 321
Forecast 322
Imports 120, 172, 210
Marketing 256, **292**
Natural gas 120
Offshore **319**
Prices **292**
Production 209, **319**
Reserves 321

EGYPT
Nearing production target 524

Chemicals 127, 488
Concessions and contracts 257, 301, 341, 488, **525**
Consumption 427
Drilling 213
Energy 427
Exploration **524**
Exports 427
Finance and investment 126, 213, 525
Forecast 388, 525
Natural gas 127, 314, 341
Offshore **73**, 301, 340, 388, 488, **524**
Pipelines (oil) 127
Production 6, 127, 173, 340, 366, 436, **524**
Refining 355
Reserves 525
Sinai 127, 488
Suez canal 130, **404**

EQUATORIAL GUINEA

Offshore 532

ETHIOPIA

Consumption 426
Energy 426
Imports 426

EUROPE (EAST)

Comecon 76, 126, 213, 254, 339, 387, 434, 488
Natural gas 314
Prices **356**
Production 6, 366

EUROPE (WEST)
Chemicals — Gloom in Western Europe 233

Chemicals **233**
Consumption 65, 271
Energy **72**
Exports **240**
Finance and investment 336
Forecast **72**
Imports 50, **240**
Map 320
Marketing **101**
Natural gas 46, 314, 502
Natural gas (liquefied) 516
Prices **49**, **101**, **141**
Production 6, 366
Refining 49, 101, 141, **353**
Tanker terminals 406
Uranium 255

FAR EAST

Consumption 271
Finance and investment 336
Natural gas 314, 502
Production 6, 366
Refining 354
Uranium 255

FIJI

Offshore 302

FINLAND

Consumption 212
Energy 212, 328
Forecast 212
Imports 487, 531
Natural gas 125, 315, 531
Prices 531
Tankers 156, 404
Trade agreement — USSR 487

FRANCE
Variations on a theme 161
Emphasis on exploration 477

Companies **72**, 477
Company/government relations **161**
Consumption 73, 336, 339, 387, 487
Energy 36, 161, 253, 299
Exploration 75, 336, 339, **477**, 531
Finance and investment 477
Imports 36, 125, 162, 172, 256, 336, 339, 387, 478, 531
Legislation 162
Marketing **161**
Natural gas 75, 172, 212, 314, 435
Natural gas (liquefied) 517
Oil policy **161**
Offshore 339
Pipelines (gas) 256
Prices **161**
Production 6, 212, 322, 366, 477
Reserves 321
Stocks and storage 223
Tankers 156, 404
Taxation 435
Trade agreement — Mexico 39

FRENCH POLYNESIA

Refining 354

GABON

Consumption 335
Natural gas 314
Offshore 126, 388
Prices 301
Production 6, 257, 366
Royalties and revenues 224
State operations 532

GAMBIA

Offshore 213

GERMANY (EAST)

Atomic energy 254
Energy 340
Natural gas 314
Prices 340, 356
Production 6, 366
Trade agreement — Germany (West) 436

GERMANY (WEST)
Brave efforts — grave problems 195

Air pollution 36
Coal 36, 68, 301
Companies **169**, **196**
Consumption 75, 126, 195, 301, 340, 387, 436
Energy 126, 195, 387, 527, 532
Forecast 340, 436
Imports 340
Marketing 51
Natural gas 36, 76, 126, 170, 172, 314, 340
Offshore 191, 436
Production 6, 195, 256, 322, 340, 366
Refining 172, **196**, 340
Reserves 196, 257, 321
Royalties and revenues 387
Stocks and storage 223
Synthetic oil 68
Tankers 156, 404
Trade agreement — Germany (East) 436

GHANA

Offshore 37, 76, 173, 436
Production 301, 366
Royalties and revenues 37

GREECE
Oil and energy in the 1980s 157

Agreement — Yugoslavia 531
Chemicals 158
Drilling 256
Electricity 159
Energy 75, **157**, 335, 527
Exploration 158, 435
Forecast 159, 335
Gasoline 256
Imports 75, 158, 435, 487
Map 157
Natural gas 125, 314
Offshore 75, **157**, 531
Pipelines (oil) 531
Prices 335
Refining 36, **158**
Tankers 156, 404
Trade agreement — Libya 488

GREENLAND

Exploration 387

GUATEMALA

Companies 390
Concessions and contracts 39
Consumption 426
Energy 426
Exploration 39
Imports 426
Production 304, 366

GUINEA

Refining 354

GUYANA

Exploration 491
Offshore 215

HUNGARY

Atomic energy 255
Energy 301
Exploration 76
Imports 126
Natural gas 314
Prices 356
Production 6, 366
Refining 488

IEA
Is stockpiling of oil the answer? 222

Consumption **239**
Emergency supplies 304
Energy **527**
Forecast 304
Imports 311
Stocks and storage **222**

INDIA

Consumption 426
Drilling 389
Energy 328, 426
Exploration 341
Imports 426
Imports **24**, 79, 258, 437, 489
Natural gas 38, 258, 314
Offshore 38, 128, 302, 533
Production 6, 79, 128, 214, 302, 366, 489, 533
Refining 354, 533
Reserves 214
State operations 79
Tankers 156, 404

INDONESIA
Growing problems downstream 461

Concessions and contracts 389, 489, 534
Consumption 335, 427, 462
Energy 427
Exploration 38, 258, 389
Exports 214, 427, 462
Finance and investment 302, 462
Forecast 128
Imports 462
Natural gas 314
Natural gas (liquefied) 214, 341, 517
Offshore 38, 79, 214, 302, 437, 489, 534
Pipelines (gas) 38
Prices 182, 310, 462
Production 6, 79, 128, 174, 302, 341, 366
Refining 354, 437, **461**
Reserves 38
Royalties and revenues 224

IRAN
Oil cutoff hits world supplies 54

Chemicals 258, 301, 437, 489, 533
Companies **350**
Company/government relations **56**, 301, 489
Consumption 127, 335, 427
Energy 427
Exports **54**, 127, 138, 153, 213, 388, 427, 533
Finance and investment **55**
Nationalisation 388
Natural gas 57, 301, 314, 388, 502
Offshore 257
Pipelines (gas) 37, 533
Prices 182, 310
Production 6, 37, **54**, 127, 139, 213, 257, 341, 366, 436
Refining 56, 354, 437, 533
Reserves 56
Royalites and revenues 224
State operations 257, 351, 489
Tankers 156, 404

IRAQ

Agreement — Syria 127
Chemicals 489
Consumption 335, 427
Energy 427
Exports 37, 127, 173, 388, 427
Finance and investment 77
Liquefied petroleum gas 489
Nationalisation 173, 350
Natural gas, 314, 533
Offshore 37
Pipelines (gas) 341
Pipelines (oil) 37, 77
Prices 182, 310
Production 6, 301, 366, 489
Refining 37, 341, 354, 489, 533
Royalties and revenues 224
State operations 351
Tanker terminals 489
Tankers 156, 404
Trade agreement — Irish Republic 487
Italy 487

IRISH REPUBLIC

Energy 527
Imports 487
Natural gas 314
Offshore 435
Reserves 321
Trade agreement — Iraq 487

ISRAEL
Long-term energy hopes 201

Coal 201
Companies 173
Drilling 258
Energy **201**
Exploration 77, 173, 202, 258, 301
Imports 202
Map 203
Natural gas 77, **201**, 314
Offshore 77, 127, 302
Pipelines (oil) 203
Production 77, 201, 302, 366, 388, 437
Refining 355
Shale oil **171**, 203

ITALY

Looming supply crisis 245

Consumption 168, **245**, 339, 367, 536
Energy 245, 527
Exploration 249
Finance and investment 168
Imports 36, 212, 246, 299, 487, 531
Marketing 246
Natural gas 212, 249, 314, 435
Natural gas (liquefied) 517
Offshore 435
Pipelines (gas) 125, **168**
Production 6, 212, 249, 322, 366
Refining **246**, 355
Reserves 321
State operations 299
Stocks and storage 223
Tankers 156, 404
Trade agreement — Iraq 487

IVORY COAST

Refining 173

JAMAICA

Refining 354

JAPAN
Long-term oil strategy succeeding 369

Coal 69
Companies 371, 437
Concessions and contracts 450
Consumption 174, 255, 271
Drilling 375
Energy 79, 341, 527
Exploration abroad 371
Finance and investment 128
Forecast **255**, 341, 370
Imports 38, 128, **170**, 255, 258, 302, 341, **369**, 437, 490, 534
Natural gas 314, 341, 375, 534
Natural gas (liquefied) 375, 517
Offshore 174, 214, 450
Oil supply **369**
Production 6, 255, 366, 375
Refining 255, 354, 370
Reserves 375 (correction 422)
State operations 375
Stocks and storage 79, 128, 223, 369
Synthetic oil 69
Tankers 156, 404
Trade agreement — China 15, 371

JORDAN

Exploration 77
Refining 173, 355
Shale oil 253

KENYA

Concessions and contracts 532
Consumption 426
Energy 328, 426
Exploration 532
Imports 426

KOREA (NORTH)

Drilling **385**
Exploration 302
Imports 385
Offshore **385**

KOREA (SOUTH)
Rising imports, mounting insecurity 448

Concessions and contracts 174, 450
Consumption 342, 426, 448
Energy 426
Exploration **449**
Imports 80, 128, 426, **448**
Offshore 80, 258, 437, **450**
Refining 128, 354, **449**
State operations 38
Stocks and storage 437, 449
Tankers 156, 404

KUWAIT
New oil strategy pays off 95

Chemicals 96, 437, 533
Consumption 335, 427
Energy 427
Exports 77, 95, 427
Finance and investments 97
Liquefied petroleum gas 302
Nationalisation 350
Natural gas **96**, 314
Natural gas liquids **96**
Neutral Zone 489
Prices 138, 182, 310
Production 6, **95**, 341, 366, 388
Refining **95**
Royalties and revenues 224
State operations 489
Tankers **96**, 156, 341, 404

LATIN AMERICA
Peru — Latin America's new oil exporter 283

Companies 39
Consumption 271
Exports 99
Natural gas 314
Production 6, 366
Refining 99, 354

LIBERIA

Tankers 156, 404

LIBYA

Companies 213
Company/government relations 76, **481**
Concessions and contracts 173
Consumption 335, 427
Energy 427
Exploration 481
Exports 340, 427
Natural gas 213, 314
Natural gas (liquefied) 517
Offshore 127, 257
Participation 350
Prices 138, 182, 310
Production 6, 301, 366, 481
Refining 354, 532
Royalties and revenues 224
Tankers 156, 404
Trade agreement — Greece 488

LUXEMBOURG

Energy 527
Natural gas 314

MALAGASY REPUBLIC

Energy 328

MALAYSIA

Agreement — Thailand 128
Company/government relations 125
Drilling 214
Exports 302, 490
Natural gas 174, 314
Natural gas (liquefied) 490
Offshore 79, **124**, 128, 342, 389, 437, 490
Production 6, 38, 366, 534
Refining 174, 258
Royalties and revenues 342
State operations 79, 124

MAURITANIA

Refining 354

MEXICO
A new force in world oil 105

Consumption 427
Drilling **106**
Energy 427
Equipment 304
Exploration **106**, 175, 343
Exports 39, **71**, **111**, 175, 390, 401, 427, 439
Finance and investment 105, 343, 390
Forecast 109
Imports 111
Natural gas **113**, **166**, 304, 314, **381**, 438, **479**
Offshore 39, 111, 259, 304, **334**, 343, 390, 491, 535
Pipelines (gas) 480
Pipelines (oil) 78, 215, 334
Prices 39, 343
Production 6, **71**, **105**, 259, 366, 535
Refining 215, 355, 439
Reserves 39, 71, **109**, 259, 439, 535
Sea Pollution **334**
State operations 71, **105**
Trade agreement — France 39

MIDDLE EAST
Western defence strategy 324

Consumption 271
Defence **324**
Finance and investment 336
Natural gas 314, 502
Pipelines (oil) 156
Production 6, 366
Refining 354
Reserves 501
Tanker freights 80
Tanker Terminals 406

MONGOLIA

Consumption 342

MOROCCO

Consumption 426
Energy 426
Exploration 388
Forecast 76
Imports 426
Natural gas 314
Offshore 213, 488
Refining 436
Shale oil 37, 76, 126

MOZAMBIQUE

Consumption 426
Energy 426
Imports 426
Refining 354

MUSCAT AND OMAN (See Oman)

NEPAL

Consumption 426
Energy 328, 426
Imports 426

NETHERLANDS
Oil Markets — Dynamics of the Rotterdam market 49
Oil Markets — The wilder shores of the oil trade 101
Oil Markets — Paradox and platitude 141

Energy 212, 527
Marketing **49**, **101**
Natural gas 64, 75, 256, 299, 314, 339, 387, 487
Offshore 125, 190, 531
Pipelines (gas) 190
Pipelines (oil) 190
Prices **49**, **101**, **141**, 216
Production 6, 322, 366
Refining 101
Reserves 321, 339
Stocks and storage 223
Tanker terminals 531
Tankers 156, 404

NETHERLANDS ANTILLES

Tankers 156, 404

NEUTRAL ZONE

Kuwait 489
Production 258

NEW GUINEA
(See Papua New Guinea)

NEW ZEALAND
Little demand for Main gas 198

Chemicals 434, 490
Consumption 200
Energy 342, 527
Imports 200
Liquefied petroleum gas **198**
Methanol 434
Natural gas 174, **198**, 302, 314, **434**
Offshore 38, 79, **198**
Production 214, 366
Refining 258, 355
State Operations 198, 490
Synthetic oil 534
Taxation 258

NICARAGUA

Refining 355

NIGER

Concessions and contracts 37
Exploration 37

NIGERIA
Nationalisation for political ends 377

Chemicals 488
Companies 253, **377**
Concessions and contracts **123**, **253**, 301, **480**
Consumption 335, 427
Energy 427
Exploration 340, 378
Exports 427
Nationalisation **377**
Natural gas 314
Offshore 253, 480
Participation 340, 350
Pipelines (oil) 340
Prices 182, 310, 378
Production 6, 37, 76, 213, 340, 377, 436
Refining 76, 354
Royalities and revenues 213, 224, **378**, 436
State operations 123, 351, 436, 481, 488
Tanker terminals 173
Tankers 301
Taxation 340

NORTH AMERICA

Natural gas 314, 381
Offshore **480**
Pipelines (gas) **33**, **165**, **251**, **526**
Pipelines (oil) **33**, **479**
Production 6, 366
Refining 354
Uranium 255

NORTH SEA
Denmark — Decision soon on North Sea gas use 28
UK North Sea — Close to self-sufficiency 146
Norway's production set to rise 189
North Sea revenue options 266
Effects of UK oil revenues 288

Denmark **28**, 36, **123**, **190**, 256, 435, 531
Germany (West) 436
Netherlands 531
Norway 36, 125, 172, **189**, **208**, **254**, 256, **293**, 299, 387, 435, 487, 531
UK **6**, **19**, **21**, 36, 75, 125, **146**, **170**, 172, **197**, 213, **254**, **266**, **288**, **293**, 299, 340, 387, 412, 435 **482**, 487, 529, 530

Diagram 146
Drilling 189
Finance and investment 197
Natural gas **21**, 123, 147, 531

NORTH YEMEN
(See Yemen (Arab Republic))

NORWAY
North Sea — Norway's production set to rise 189

Companies 387
Concessions and contracts 75, 150, 190, **208**, 299, 387
Drilling 36, 189, 209
Energy 527
Exports 36
Finance and investment 487
Forecast 293, 435
Legislation 299
Natural gas 125, 256, 314, 435, 531
Natural gas liquids 189
Offshore 36, 75, 125, **150**, 172, **189**, **208**, 254, 256, 299, 387, 435, 487, 531
Pipelines (gas) 299, 487
Production 6, 366, 487
Reserves 294, 387
Royalties and revenues 75, 487
State operations 212, **254**, 487, 531
Tankers 156, 404
Taxation 487

OAPEC

Conference 175
Refining 39

OECD
Gloomy view of oil supplies 446

Atomic energy 447
Coal 447
Economic growth 343
Energy 92, **447**
Forecast **446**
Foreign aid 428
Natural gas 447
Oil supply 447
Production 446

OMAN
Turning point for oil 420

Consumption 427
Energy 427
Exploration 127, 173, 422
Exports 427
Forecast 421
Map 420
Natural gas 314, 422
Offshore 127, 173, 489
Pipelines (gas) 422, 489
Pipelines (oil) 258, 421
Production 6, 366, 388, **420**
Refining 422, 489
Tanker terminals 341

OPEC
OPEC price rise by instalments 2
Prices — Widening OPEC differentials 65
Time to get oil dialogue started 88
OPEC revenues to show big rise in 1979 224
Realities of the oil business 310
OPEC's current thinking 498

Aid to LDCS 499
Company/government relations **499**
Consumption **334**, 446
Energy 334
Finance and investment 39, **296**, 398, 425, 453
Forecast 334, 446, 459, **506**
Foreign aid 428
Exports 398, 425, 446, 459
Oil policy **34**, 80, 89, **498**, 506
Participation 350
Prices **2**, **65**, 88, **139**, **182**, **268**, **297**, **310**, **415**, 460, **498**
Production 6, 88, 183, 268, 311, **366**, 446
Refining 89
Royalties and revenues **66**, **224**, 311
State operations **529**
Surplus 453

PAKISTAN
Ambitious energy plans in doubt 273

Concessions and contracts 490
Consumption 274, 426
Energy **273**, 426
Exploration 128, 214, **274**
Finance and investment 38
Foreign aid 275, 490
Imports 273, 426
Map 273
Natural gas 128, **274**, 314
Offshore 38
Participation **273**
Production 6, 80, 273, 366
Refining 275, 354, 490

PANAMA

Tankers 156, 404
Tanker terminals 215

PAPUA-NEW GUINEA

Concessions and contracts 302

PERU
Latin America's new oil exporter 283

Consumption 426
Drilling 78, 286
Electricity 286
Energy 343, 426
Exploration **285**
Exports 39, 130, 175, **283**, 439
Finance and investments 343
Imports 426
Map 285
Natural gas 130, 314
Offshore 130, 286
Participation 286
Pipelines (oil) 130, 215, 283
Prices 283, 439
Production 6, 130, 215, **283**, 366, 491
Refining 39, 286, 343, 354
Reserves 491
State operations 283, 439, 491

PHILIPPINES
Setbacks to production hopes 26

Chemicals 80
Companies 389
Consumption 426
Drilling 27, 124, 490
Energy 124, 426
Exploration 174
Imports 426
Natural gas liquids 389
Offshore **26**, 124, 128, 389, 437, 490
Production **26**, 38, 80, **124**, 214, 366
Reserves 26, 214
State operations 389

POLAND

Atomic energy 255
Coal gasification 436
Imports 126
Natural gas 314
Prices 356
Production 6, 366

PORTUGAL

Concessions and contracts 172
Consumption 73
Imports 212, 299
Marketing 435
Offshore 212
Oil supply 532
Refining **72**, 299
State operations 256
Tankers 156, 404

QATAR

Chemicals 258, 295
Consumption 335
Finance and investment 77
Nationalisation 350
Natural gas 77, 258, **295**, 314, 489
Natural gas liquids 214, 388
Offshore 37, 258
Prices 138, 182, 310
Production 6, 366
Refining 37, 354, 533
Royalties and revenues 224

RAS AL KHAIMAH

Concessions and contracts 341
Legislation 37

RHODESIA

Energy 328
Stocks and storage 37

ROMANIA
Oil at the crossroads 360

Atomic energy 255, 362
Coal 362
Electricity 362
Energy 173, 340, **360**
Exports 361
Exploration 361
Imports 126, 257, 361
Natural gas 314, 360
Offshore 532
Prices 356
Production 6, 126, **360**, 366
Refining 36, 360

RWANDA

Natural gas 314

SAUDI ARABIA
Maintaining the balance 465

Chemicals 77, 127, 388, 437, **466**, 533
Company/government relations 173
Consumption 335, 427, 465
Energy 258, 427
Exploration 341
Exports 127, 427
Forecast 173, 258, 465
Finance and investment 466
Liquefied petroleum gas 258
Naphtha 341
Natural gas 314, 465
Natural gas liquids 37, 466, 533
Natural gasoline 341
Participation 350
Pipelines (oil) 77
Prices 138, 182, 310
Production 6, 341, 366, 465
Refining 173, 341, 354, 388, 465
Reserves 341, 465
Royalites and revenues 224
Stocks and storage 437
Tankers 156, 404
Tanker terminals 258

SENEGAL

Refining 354

SEYCHELLES

Offshore 340

SHARJAH

Concessions and contracts 37
Exploration 37
Natural gas 314
Offshore 37, 533
Production 6, 366

SINGAPORE

Chemicals 80
Refining 342, 355
Tankers 156, 404

SOMALIA

Refining 213

SOUTH AFRICA

Coal 67, 74, 301
Companies 488
Consumption 37
Imports 37, **73**
Natural gas 301, 436
Offshore 74, 257, 436
Refining 128
State operations 257
Synthetic oil 67, 126, 173, 301

SOUTH AMERICA

Refining 354

SOUTH PACIFIC

Exploration **52**
Offshore **52**

SOUTH YEMEN
(See Yemen (People's Democratic Republic of))

SOVIET BLOC

Atomic energy **254**
Energy **339**

SPAIN
No brake on energy use 472

Atomic energy 123, 378
Companies 473
Concessions and contracts 473, 487
Energy **123**, 172, **378**, **472**, 527
Forecast 123, 378, 474
Imports 210, 473
Map 35, 472
Natural gas **35**, 212, 314, 340, 378, 387, 435, **474**
Natural gas (liquefied) 474, 517
Offshore 35, 36, 172, 212, 256, 387, 435, **472**, 487
Pipelines (gas) 299
Prices 339, 532
Production 6, 36, 172, 322, 366, 387, 435, 473
Refining **210**, 339, 355, 472
Reserves 340
State operations 210, 473
Tankers 156, 404

SRI LANKA

Concessions and contracts 485
Consumption 426
Energy 328, 426
Exploration **485**
Imports 38, 426, 485
Offshore 485

SUDAN

Consumption 426
Energy 426
Exploration 340, 532
Exports 426
Natural gas 314

SWEDEN

Atomic energy **210**
Companies 340
Drilling 75
Energy 210, 328, 527
Forecast 210
Imports 340
Offshore 75, 435
Refining 435
State operations 172, 532
Tankers 156, 404

SWITZERLAND
Oil's dominance in energy balance 330

Consumption 113, **330**, 387, 532
Energy **330**, 527
Exploration 332
Gasoline 331
Imports 172, **330**
Natural gas 314, 331
Refining 330
Taxation 331

SYRIA

Agreement — Iraq 127
Concessions and contracts 214, 489
Consumption 427
Energy 427
Exploration 302
Exports 427
Forecast 302
Natural gas 314, 533
Production 6, 366
Refining 37, 388, 437

TAIWAN
Reality intrudes into oil plans 185

Concessions and contracts 185, 389
Consumption 426, 437
Drilling 185
Energy 186, 426
Imports 186, 426, 437
Map 185
Natural gas 128, 186, 314
Offshore 174, **185**, 389, 438, 534
Production 6, 186, 366
Refining 258, 355
State operations 186

TANZANIA

Consumption 426
Energy 328, 426
Imports 426
Natural gas 314

THAILAND

Agreement — Malaysia 128
Consumption 426
Energy 426
Exploration 174
Imports 426, 438
Legislation 80
Natural gas 80, 314, 342, 389, 438, 534
Offshore 80, 389, 438
Refining 490

TABAGO

Consumption 427
Energy 427
Exports 427

TRINIDAD

Consumption 427
Energy 427
Exports 427
Natural gas 314
Natural gas (liquefied) 215
Offshore 129
Production 6, 215, 366
Refining 78

TUNISIA

Chemicals 301
Concessions and contracts 436, 532
Consumption 427
Energy 427
Exploration 301, 488
Exports 427
Finance and investment 301
Natural gas 314, 432
Offshore 37, 76, 126, 173, 295, **432**, 436, 532
Pipelines (gas) 37, 257
Production 6, **294**, 366
Refining 340

TURKEY

Atomic energy 437
Chemicals 258
Consumption 426
Energy 426, 527
Exploration 258, 437, 489
Finance and investment 37
Imports 128, 426
Natural gas 173, 314
Pipelines (oil) 489
Prices 214
Production 6, 366
Refining 128, 173, 354

UNITED ARAB EMIRATES
(See also Abu Dhabi, Dubai and Sharjah)

Consumption 335
Royalties and revenues 224

UGANDA

Energy 328

UNITED KINGDOM
State oil companies — BNOC's three years of progress 19
UK North Sea — Close to self-sufficiency 146
North Sea revenue options 266
Effects of UK oil revenues 288

Chemicals 532
Coal 68
Companies 29, 36, 206, 213, 340
Concessions and contracts 126, **170**, 482
Consumption 530
Diagram 146
Drilling 36, 147, 387
Energy 36, 267, 328, 435, 527
Exploration 340, 387
Exports 530
Finance and investment 267, 435
Gasoline 75
Motor vehicles **60**
Natural gas **21**, 126, 147, 301, 314, 340, 387, 532
Natural gas (liquefied) 517
Natural gas liquids 387
Offshore **7**, **19**, **21**, 36, 75, 125, **146**, **170**, 172, 197, 213, 254, 256, 266, **293**, 299, 340, 387, 412, 436, **482**, 487, 532
Participation **19**, 293
Pipelines (gas) 36, 172, 340
Pipelines (oil) 75
Production 6, 75, **146**, 266, 322, 340, 366, 435, 532
Refining 36, 75
Reserves 36, 321, 487
Royalties and revenues**266**, **288**
Share market 29
State operations **19**, **254**, 299, **384**, **412**, **482**, **529**
Synthetic oil 68, 532
Tanker terminals **7**, 75, 146, 156
Tankers 156, 404
Taxation 172, 299

UNITED STATES
CONCERN OVER LPG markets 16
US Crude Oil Imports — Rise confirmed 90
Energy Problems intensify 225
US Oil Companies — strong rise in first-half profits 379
US Refining — Expansion after go-slow years 469
US Refining — Confusion in refining policy 510
Crude costs leap 514

Alaska 33, 38, 129, 165, 174, 214, **251**, 303, 389, 438, 490, 526, 534
Atomic energy 326
Coal **68**, 214, 303, 326, 390, 490
Coal gasification **433**, 534
Companies 29, 38, **121**, 153, **204**, **231**, **238**, **312**, **359**, **379**, **505**
Company/government relations **184**
Concessions and contracts **166**, 333
Consumption **70**, 153, 207, 225, 271, 470
Drilling 333, 342, 534
Electricity 38
Energy 11, **48**, **140**, **153**, 174, 183, **225**, 231, 302, 312, **326**, 328, **332**, 342, **352**, 389, 418, **500**, 509, 510, 527
Finance and investment **11**, **99**, 121, **153**, **231**, **279**, 336, **359**, **415**, **453**, **509**
Forecast 326, 332, 510
Gasoline **30**, 153, 174, 333, 355, **470**, 534
Heating oil 342, **430**
Imports 11, 70, **90**, **99**, 139, 153, **226**, 279, **312**, 326, **376**, 470, 490, 511, 514
Legislation 352, **500**, 534
Liquefied petroleum gas **16**
Marketing **16**, 534
Motor vehicles 59
Natural gas 38, **46**, **69**, 129, 140, 166, 226, **251**, 303, 314, 326, 342, 381, 389, 431, 438, **479**, 502
Natural gas (liquefied) 38, 69, 129, 174, 303, 389, 490, **515**
Offshore **30**, 77, 129, **166**, 214, **251**, 302, 303, **333**, 342, 389, 480, 490, 534
Oil policy **140**
Oil supply 140
Pipelines (gas) 33, 214, **251**, 389, 490, 526
Pipelines (oil) 33, 78, **166**, 174, 259, 479
Prices 11, **16**, **30**, 69, **207**, **227**, 279, **332**, **376**, 389, **430**, 438, 480, 514

Production 6, 11, 207, 226, 259, 326, 366, 376, 469
Refining 38, 66, 77, 129, **166**, 302, 354, 389, 438, **469**, 490, **510**, 534
Research 68
Reserves 226, 259, **359**, 501, 502
Shale oil 390, 490
Share market 29
Stocks and storage 48, 77, 214, 223
Synthetic natural gas 509
Synthetic oil **68**, 490, **509**
Tanker terminals 156, 406, 479
Tankers 156, 404
Taxation **228**

URUGUAY

Exploration 130
State operations 130

USSR
Rising output of natural gas 163

Atomic energy 254, 257, **298**, 340
Chemicals 299
Coal 257, **298**, 532
Drilling 173, 213, 387, 488
Electricity 436
Energy **34**, 36, 301, 324, 328, 488
Equipment 36, **298**
Exports 173, 213, 339, 388
Finance and investment 126
Forecast **34**, **163**, **428**
Offshore 36, 301, 340, 488
Natural gas 76, **163**, 213, 257, 314, 502, 532
Pipelines (gas) 164, 488
Pipelines (oil) 126
Prices 356
Production 6, 76, 126, 366, 428, 532
Refining 76, 299
Reserves 504
Shale oil **529**
Siberia 388
Tankers 156, 404

VENEZUELA

Border dispute 303
Company/government relations 304
Concessions and contracts 215
Consumption 335, 427, 433, 535
Drilling 78, 130
Energy 427
Exploration 343
Exports 427, 489, 535
Finance and investment 336, 343
Gasoline 343
Heavy oil 215
Imports 343
Natural gas 314
Oil policy 39
Offshore 39, 78, 304, 489
Prices 182, 310, 489
Production 6, 78, 175, 366, 535
Refining 355
Royalties and revenues 224
State operations 39, 343
Tar sands 491

VIETNAM
Problems loom for renewed search 62

Concessions and contracts **62**
Consumption **64**
Exploration 38
Imports 64, 342
Map 63
Offshore 38, **62**, 128, 174, 214, 438, 534
Offshore boundaries 63
Refining 342
State operations 64

VIRGIN ISLANDS

Refining 354

WESTERN HEMISPHERE

Finance and investment 336
Natural gas 314, 502
Production 6
Reserves 501

WORLD
Competition cuts 1978 OPEC output 5 (correction 48), **The coming rise in gas prices 46**
World Energy — Long-term outlook hopeful 91
Aftermath of a revolution 138
Natural gas — Growing pressures on supply 313
Third World — Incurable ills? 328
Control of crude oil supplies 350
Refineries — Year of contrasted difficulties 353
Shifting patterns of production 365
Ten-point programme for the West 398
Viewpoint — World petroleum congress 400
Tankers — Conflicting influences at work 403
Third World — Energy and LDCs in the 1970s 424
Gloomy view of oil supplies 446
World Petroleum Congress — Looking ahead with caution 459
New assessment of resources 501
LNG Market — Future clouded by uncertainty 515

Atomic energy **92**
Bunker oil **521**
Coal 91, **117**
Company/government relations **350**
Consumption **271**, 398, **424**
Conversion plants **530**
Energy **91**, 399, **424**, 459
Exploration 399
Finance and investment **276**, 336, 400, 425
Forecast **91**, **337**, **446**, **459**
Less developed countries **424**, **486**
Natural gas **46**, **313**, 314, **502**
Natural gas (liquefield) 46, 314, **515**
Oil supply **398**, **400**, **446**, **459**
Prices **15**, **46**, **138**, **182**
Production **5** (correction 48), 366, 400, 459, 501
Refining **353**
Reserves **400**, 460, **501**
Seaborne trade 521
Stocks and storage 139
Tanker freights 97, **430**, 523
Tankers 35, **97**, 130, **155**, **403**, **486**
Uranium **255**
World petroleum congress **400**, **459**

YEMEN (PEOPLE'S DEMOCRATIC REPUBLIC)

Concessions and contracts 341, 437

YUGOSLAVIA

Agreement — Greece 531
Consumption 76, **249**, 488
Imports 504
Natural gas 126, 314, 388
Offshore 388, 436
Production 6, 366
Refining 354, 504
Synthetic rubber 257

ZAIRE

Natural gas 314
Production 6, 366

INDEX OF COMPANY INFORMATION

Amerada Hess 238, 380, 505
American Petrofina 392
Alberta Gas Trunk Line 344
Aquitaine of Canada 80
Ashland Oil **4**, 80, 136, 216, 260, 392, 492
Atlantic Richfield 29, 80, 121, 136, 236, 238, 380, 492, 505
Attock Petroleum 29, 344

Barber Oil 440, 492
Belridge Oil 440
British-Borneo Petroleum 29
British Petroleum 29, 40, 80, 136, 176, 205, 234, 260, 304, 344, 440, 492, 536
BP Canada 392
Broken Hill Proprietary 344
Burmah Oil 29, 80, 260, 344, 440, 536

Canadian Occidental Petroleum 392
Charter Company 176, 260, 492
Charter Oil 392
Cities Service 29, 80, 121, 236, 238, 380, 505
Commonwealth Oil 380, 492
Commonwealth Oil Refining 80, 176, 216, 304, 440
Compagnie Française des Pétroles 40, 176, 440
Continental Oil 29, 80, 121, 236, 238, 344, 380, 505

Denison Mines 392
Deutsche BP **169**
Dome Petroleum 260, 344, 392, 492
El Paso Company 260, 392, 440, 505
Elf Aquitaine **72**
Equity Oil 260
Esso Petroleum 536
Exxon 29, 80, 121, 136, 205, 234, 238, 260, 304, 344, 379, 392, 492, 505, 536
Forest Oil 260

General Crude Oil 176, 216
Geosource Inc 80
Getty Oil 29, 121, 136, 238, 380, 492, 505
Great Canadian Oil Sands 344
Gulf Oil 29, 40, 80, 121, 205, 216, 234, 238, 260, 344, 379, 492, 505
Gulf Oil Canada 80, 260, 392
Hamilton Brothers Petroleum 344, 392
Home Oil 260, 392, 536
Hudson's Bay Company 176, 216
Hudson's Bay Oil and Gas 260
Imperial Oil 260, 392
International Paper 392
Interprovincial Pipe Line 260, 392
KCA International 216
Kerr-McGee 136, 236
London and Scottish Marine Oil 440, 492
Marathon Oil 29, 121, 238, 253, 380, 492, 505
Mobil 29, 80, 121, 136, 176, 205, 234, 238, 260, 344, 379, 492, 505
Murphy Oil 392
Natomas 260, 344, 380, 505
NL Industries 40, 80, 260, 392
Norsk Hydro 440
Occidental Petroleum 29, 40, 121, 136, 238, 344, 380, 492, 505
Oil Company of Australia NL 344
Oil Exploration Holdings 29
Peninsular and Oriental Steam Navigation 536
Pennzoil Company 260
Petrofina 260, 392
Petrofina Canada 392
Phillips Petroleum 29, 40, 121, 238, 344, 380, 492, 505
Premier Consolidated Oilfields 29, 40, 304
Quaker State Oil Refining 392

Royal Dutch Petroleum 176
Royal Dutch/Shell Group 40, 176, 205, 234, 260, 392, 536
S & A Geophysical 80
Santa Fe International 260, 536
Shell Canada 80, 260, 344, 392, 492
Shell Oil 29, 80, 121, 216, 238, 380, 492, 505
Shell Transport and Trading 29, 176, 216
Shell UK 392
Shenandoah Oil 40, 176
Société Nationale Elf Aquitaine 216, 440, 492
Standard Oil of California 29, 40, 121, 205, 234, 238, 344, 379, 492, 505
Standard (Indiana) 29, 40, 80, 121, 236, 238, 344, 380, 440, 492, 505
Standard (Ohio) 29, 80, 121, 236, 238, 304, 344, 380, 492, 505
Sun Company 121, 238, 380, 440, 492, 505, 536
Superior Oil 344, 392, 440
Tesoro Petroleum 260
Texaco 29, 80, 121, 205, 234, 238, 304, 379, 392, 440, 492, 505
Total Group 304
Total Petroleum NA 392
TransCanada Pipelines 216, 260, 392
Trans Mountain Pipe Lines 260, 392
Tricentrol 29, 40, 176, 260, 392, 536
Ultramar 29, 40, 176, 304, 392, 536
Union Oil of California 29, 80, 121, 238, 380, 492, 505
Veba Group **169**
Viking Oil 216
Weeks Petroleum **327**, 440
West Coast Transmission 260, 392
Western Company of North America 260, 392
Zapata Corporation 260

BOOKS RECEIVED

Advances in energy systems and technology 322
ANEP: European petroleum yearbook 1978 24
L'Année de l'énergie 1978-1979 429
Argyll — The first floating production platform 24
Bibliography of oil and gas law 24, 322
Coal gasification: a basic study about existing processes and new developments 322
Compendium 78/79 118
Crude oil drilling fluids 322
Crude oil import prices 1973/1978 513
Dictionary of petroleum technology 513
De energiekrise und die strategien der energiesicherung 429
Downstream operations in OPEC member countries — prospects and problems 118
Emerging Southeast Asia: a study in growth and stagnation 429
Energie-versorgung: ressourcen, technologien, perspektiven 252
Energy and economic development in India 429
Energy resources: availability and rational use 252
Energy options and conservation 513
Engineer's guide to solar energy 322
Erdöl-soweit verfügbar 429
European continental shelf guide 118, 252
European energy outlook to 1985 24

Financial reporting by the oil and gas industry in Europe 322
Gesichte der Deutschen BP 1904-1979 429
Greenwich forum — Britain and the sea 429
Guide to information services in marine technology 118
International crude oil and product prices January 1979 252
International crude oil and product prices July 1979 429
Japan petroleum and energy yearbook — 1978 118
Kuwait: trade and investment 429
A low energy strategy for the United Kingdom 322
Metric conversion handbook 322
Mexican oil and natural gas 322
National offshore information conference papers 1978 118
North Sea energy and wealth 1965-1985 252
The North Sea in perspective 322
North Sea oil and gas vessel requirements to 1983 252
North Sea oil directory 1979 252
Offshore installation manager's handbook 429
Offshore oil technology: recent developments 322
Offshore petroleum engineering 24
Oil and gas in Comecon countries 118
Oil and nationalism in Argentina: a history 322

Oil sand and oil shale chemistry 118
On fossil fuel reserves and resources 24
OPEC trade directory 513
La OPEC y los precios del petroleo 322
Perspectives énergetiques et impacts sur l'industrie des hydrocarbures 252
Perspectives energetiques Français 429
Planung in der energiewirtschaft 24
Recueil de la réglementation pétrolière Française: recherche — exploitation 118
Register of offshore units, submersibles and diving systems 1979-80 513
Report on the Asia-Pacific Studies conference 24
Review of energy models 24
Roads to energy self-reliance 429
Saudi Arabia: a case study in development 513
Security of Middle East oil 322
State-owned oil enterprises 1978-79 118
Temperature susceptibility of the consistency of hydrocarbon binders 429
Le transport maritime: études et statistiques 118
Uranium supply and demand 118
Workshop on energy data on developing countries 252
The world energy book 118
World energy: looking ahead to 2020 24
World oil trade 322